

Stage: **10.1**
Problem/Modification Identification Stage

Responsibility: Maintenance Team

Description: In this stage, software changes are identified, classified, and assigned an initial priority ranking. Each request for a software modification (i.e., Modification Request) is evaluated to determine its classification and handling priority. The classification should be identified from the following types of maintenance.

- Corrective - Change to a software product after delivery to correct defects.
- Adaptive - Change to a software product after delivery to keep it functioning properly in a changed or changing environment.
- Emergency - Unscheduled corrective maintenance required to keep a system operational.

The need for software modifications can be driven by any number of factors, including:

- Report of system malfunction
- Mandatory changes required by new or changed federal or state law
- New requirements to support business needs
- Major enhancement or redesign to improve functionality or replace an obsolete system component
- Operational system upgrades and new versions of resident software (e.g., COBOL, CICS, Oracle)

These factors should be considered when assigning a priority to the modification request.

Exhibit 10.1-1 (provided at the end of this section) summarizes the input, process, control, and output for the Problem/Modification Identification Stage of software maintenance.

Input: Input to the Problem/Modification Identification Stage of software maintenance is one or more Modification Requests.

- Process:** If a modification to the software is required, the following activities must occur within the maintenance process:
- Assign an identification number
 - Classify the type of maintenance
 - Analyze the modification to determine whether to accept, reject, or further evaluate
 - Prioritize the modification according to the following categories:
 - Emergency (follow emergency change procedure and integrate into the next scheduled release or block of modifications)
 - Mandatory (e.g., legal, safety, payroll)
 - Required (has associated benefits; e.g., productivity gains, new business drivers)
 - Nice to have (lower priority)
- Control:** Modification Requests and process determinations are uniquely identified and entered into the Project File.
- Work Products:** The output of this stage is the validated Modification Request and the following process determinations. Place a copy of all work products in the Project File.
- Statement of the problem or new requirement
 - Problem or requirement evaluation
 - Classification of the type of maintenance required
 - Initial priority
 - Verification data (for corrective modifications)
 - Initial estimate of resources required
- Review Process:** Conduct peer review(s) as appropriate.

Exhibit 10.1-1. Problem/Modification Identification Stage